



Nadir Bir Dislokasyon: İzole Proksimal Tibiofibular Eklem Dislokasyonu

A Rare Dislocation: Isolated Proximal Tibiofibular Joint Dislocation

İzole Fibula Başı Dislokasyonu / Isolated Dislocation of the Head of the Fibula

İbrahim Arziman, Yavuz Katırcı, Serkan Bilgiç, Salim Kemal Tuncer
Department of Emergency Medicine Gülhane Military Medical Academy School of Medicine, Ankara, Turkey

Özet

İzole proksimal tibiofibular eklem dislokasyonu, acil servislerde oldukça nadir karşılaşılan ve kolaylıkla atlanabilen travmalardan-
dır. İnjury mekanizması tam olarak açıklanmamış olmakla birlikte
sıklıkla diz fleksiyonda iken plantar fleksiyondaki ayağın ani inver-
sionu ile eş zamanlı olarak meydana gelir. Tanı fizik muayenede
sağlam tarafa kıyasla tibia proximalinde şişlik ve hassasiyetin
tespit edilmesi ve radyolojik görüntüleme yöntemleri ile konur.
Tedavi ise hala tartışmalı olup sıklıkla çoğu olguda konservatif
yaklaşılmakta, seçilmiş olgularda cerrah stabilizasyona kadar
gitmektedir. Burada bir futbolcunun izole proksimal tibiofibular
eklem dislokasyonu olgusu sunmuş bulunmaktayız.

Anahtar Kelimeler

Proksimal Tibiofibular Eklem, Fizik Muayene, Radyografi, Erken Tanı.

Abstract

Isolated dislocation of proximal tibiofibular joint is one of the rarely
encountered and easily overlooked traumas in ER departments. Injury
mechanism can not be elucidated entirely; however it occurs com-
monly by sudden inversion of foot, concurrently knee is at flexion
and foot is at plantar flexion. Diagnosis can be made by determin-
ing swelling and sensitivity increase at proximal tibia with compar-
ing healthy side and radiological imaging techniques. Treatment is still
a challenging and controversial issue and most of the cases are ap-
proached conservatively; for selected cases, it is possible to carry out
surgical stabilization. We have reported the case, an isolated disloca-
tion of the proximal tibiofibular joint in a football player.

Keywords

Proximal Tibiofibular Joint, Physical Examination, Radiography, Early Diagnosis.

DOI: 10.4328/JCAM.236 Received: 21.03.2010 Accepted:14.04.2010 Printed: 01.09.2011 J Clin Anal Med 2011;2(3):99- 100

Corresponding Author: Serkan Bilgiç, GATA Ortopedi ve Travmatoloji AD, 06018, Ankara, Türkiye.

GSM:+905052270148 E-mail: serbil11@gmail.com

Introduction

Isolated dislocation of proximal tibiofibular joint is one of the rarely encountered and easily overlooked traumas in ER departments. Dislocation usually occurs during sports activation (i.e. football, horse-riding, parachuting, skiing) and is often accompanied by various bone fractures [1, 2]. Dislocation may take place in subluxation (type I) form as well as anterolateral (type II), posteromedial (type III), and superior (type IV) localizations. Injury mechanism can not be elucidated entirely; however it occurs commonly by sudden inversion of foot, concurrently knee is at flexion and foot is at plantar flexion [3-6]. Bulge and sensitivity increase are frequently determined symptoms at physical examination. Anteroposterior (AP) and lateral (L) radiography and computerized tomography (CT) for selected cases whose diagnoses are undetermined may provide valuable clues leading towards the diagnosis [7]. Treatment is still a challenging and controversial issue and most of the cases are approached conservatively; for selected cases, it is possible to carry out surgical stabilization. Clinical suspicion and early diagnosis at ER are effective for preventing long term complications [4, 6, 8]. In this report, we aimed to present an isolated proximal anterolateral tibiofibular dislocation experienced by a university student who fell down during a football game and admitted to ER with complaint of severe pain at his knee.

Case

A 22 year old male patient, suffering from right knee pain was admitted to emergency department. There was a history of falling down while knee was at flexion and ankle was at inversion when he was trying to catch his sprinting rival in a football game. At physical examination, painful hard swelling with size of approximately 3x4cm at lateral of right knee was palpated. (Figure 1, 2). There was no evidence of neurological deficit due to peroneal nerve injury. Besides, there was no other abnormality at physical examination of foot or ankle. AP and lateral radiography revealed anterolateral dislocation at right tibiofibular articulation. (Figure 3). CT was not required for diagnosis. As primary treatment, closed reduction and long leg walking cast was performed by orthopedic clinic. (Figure 4). Cast was removed after 4 weeks and he was referred to physiotherapy. Kneepad use was advised for whole treatment period. The patient was completely recovered by the end of three weeks of physiotherapy. Patient had no other complaint for three months follow-up and started to play football again after the end of three months.

Discussion

Isolated dislocation of proximal tibiofibular articulation is uncommon and observed usually in sports branches which require active use of lower extremity. Typically, it is accompanied by ligament injuries of knee articulation, fibula, tibia, femur and ankle fractures, knee dislocations, and peroneal nerve dysfunction. Most common type is anterolateral dislocation as observed in our case. The accepted mechanism of dislocation of head of fibula is falling on the inverted foot accompanied with the knee flexed as the leg is violently adducted by the weight of the body. This mechanism may occur in many sports types [2, 3, 6]. We consider that the same mechanism developed in our case as well.

As a main diagnostic tool, AP/L radiography will usually be sufficient, but CT scan can be considered necessary for selected cases. In case of non-clear radiographic findings, comparison of both knees in the same position is essential. Main findings in radiographs can be listed as lateral fibula displacement which is obvious in anteroposterior view, increased distance between proximal tibia and fibula heads and head of fibula slide over on front of tibia, which results as an overlap of the fibula and tibia. The accompanying pathologies, diagnosed by the same radiographs are hidden fractures, avulsions, and abnormal calcifications [4, 7].

Neglected dislocations can be resulted by chronic dislocations and degenerative changes. Long term complications can be eradicated by minimizing the delay between admission and intervention and closed reduction. Otherwise, surgical procedures (open reduction, fixation etc.) may be necessary. In such cases, chronic local pain is the primary symptom, as peroneal nerve can be damaged. Although our patient was an amateur sportsman; this type of complications can be much more important for a sportsman [1, 4, 6, 8].

Considerably rare encountered proximal tibiofibular dislocation is an injury that can be treated very easily with conservative methods. This type of injuries can be easily underrecognized by emergency residents. Emergency residents should pay attention to knee traumas. It is mandatory to have an elaborated story, query trauma mechanism, carry out a comprehensive physical examination, and have a mindful radiologic evaluation. With this case report, we intended to remind this rarely encountered and easily ignored trauma.



Figure 1. Inspection is one of the most important parts at physical examination.



Figure 2. Inspection is one of the most important parts at physical examination.



Figure 3. AP/L radiography showed dislocation

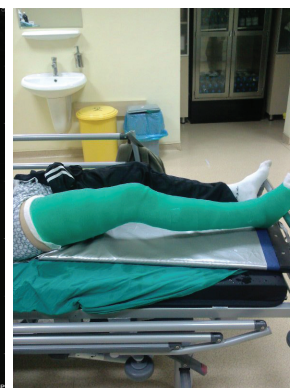


Figure 4. Closed reduction and long leg walking cast was performed

References

- Miettinen H, Kettunen U, Väättäin U. Dislocation of proximal tibiofibular joint. A new method for fixation. A case report. *Arch Orthop Trauma Surg* 1999; 119: 358-359.
- Losifidis MI, Giannoulis L, Tsarouhas A. Isolated acute dislocation of the proximal tibiofibular joint. A case report. *Orthopedics* 2008; 31 (6): 605.
- Ogden JA. Subluxation and dislocation of the proximal tibiofibular joint. *J. Bone Jt. Surg* 1974; 56-A: 145-154.
- Turco VJ, Spinella AJ. Anterolateral dislocation of head of the fibula in sports. *The Am J Sports Med* 1985; 13(4): 209-15.
- Thomason PA, Linson MA. Isolated dislocation of proximal tibiofibular joint. A case report. *The Journal of Trauma* 1986; 26(2): 192-195.
- Sekiya JK, Kuhn JE. Instability of the proximal tibiofibular joint. *J Am Acad Orthop Surg* 2003; 11 (2): 120-128.
- Keogh P, Masterson E, Murphy B, McCoy CT, Gibney RG, Kelly E. The role of radiography and computed tomography in the diagnosis of acute dislocation of the proximal tibiofibular joint. *Br J Radiol* 1993; 66: 108-111.
- Insall JN, Windsor RE, Scott WN, Kelly MA, Aglietti P. *Surgery of the knee*, 2nd edn. New York, Edinburgh, Madrid Melbourne, Tokyo, 1993; pp 1128-1130.